REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1, 5-6, 8-10, and 29-34 are presently active in this case. Claims 2-4, 7, and 11-28 were cancelled by previous amendments. The present Amendment amends Claim 30 without introducing any new matter.

In the August 11, 2010 Office Action, Claim 30 was objected to; and Claims 1, 5-6, 8-10 and 29-34 were rejected under 35 U.S.C. § 103(a) as unpatentable over Zhang (U.S. Patent No. 6,810,259) in view of Nakabayashi et al. (U.S. Patent Publication No. 2003/0112810, hereinafter "Nakabayashi").

In response to the objection to Applicants' dependent Claim 30, this claim is amended to delete the repeated language. (See Office Action, p. 6, ll. 1-6.) No new matter has been added by this amendment.

In response to the rejection of Claims 1, 5-6, 8-10, and 29-34 under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly summarizing, Applicants' independent Claim 1 is directed to a packet transmission system. The system includes a plurality of wireless base stations; and one or more terminal devices belonging to one of the wireless base stations. Moreover, each of the wireless base stations has a location table to record an address of each of said plurality of wireless base stations that structure a network, in association with an address of the terminal device currently existing under said each wireless base station, a route control table describing each of the other wireless base stations as a root bridge or a destination bridge of a transmission path in the network in association with a next hop to which the received packet is to be forwarded, the next hop being determined in accordance with a wireless base station

to which a source terminal device or a destination terminal device currently belongs.

In addition, each of the wireless base stations is configured to exchange the information in the location table with the other wireless base stations to update the location table; and each of the wireless base stations is configured to, upon receiving a packet, identify a wireless base station to which the source terminal device or the destination terminal device currently belongs according to the location table, based on a source address of the source terminal device or a destination address of the destination terminal device, respectively, included in the received packet to find the next hop according to the route control table, and transmit the packet to the next hop.

Turning now to the applied references, Zhang is directed to a location update protocol method used in mobile communications networks for managing subscriber profile information with a local profile subscriber list 150 and a global/mirrored profile subscriber list 160 that are both stored in a database 132 of each base station 114. (Zhang, Abstract, Figs. 3B, and 4A-4B, col. 9, ll. 21-27, col. 10, ll. 39-41.) With respect to Zhang's Figures 4A-4B, and 10A a procedure is described that is performed at the base station 114 to perform a location update of mobile hosts 120, upon receiving a registration message from a new mobile host 120. (Zhang, col. 30, ll. 5-24.) Zhang explains that when a base station 114 receives a registration message from a mobile host 120, (Fig. 10A, Step 1002) first base station 114 verifies whether the profile that is included in the registration message of mobile host 120 is already present in the local profile subscriber list 150. (Fig. 10A, Step 1006, col. 31, ll. 4-9) Second, base station 114 checks whether the profile of the new mobile host 120 is present in the locally stored global/mirrored profile subscriber list 160, but only if the profile was *not* present in local profile subscriber list 150. (Fig. 10A, Step 1016, col. 31, ll. 11-19.)

In case the base station 114 has determined that the profile of the new mobile host 120 is actually present in the global/mirrored profile subscriber list 160, the following steps are

performed:

> . . . the process proceeds to step 1018 in which the base station reads the profile associated with the new host from local cache database 132 (FIG. 3B) using the ***pointer address value read from field 168 of the global/mirror profile subscriber list 160*** (FIG. 4B), and performs an authentication procedure. As mentioned above, a very important advantage of the location update protocol of the present invention is realized by copying profile from base stations to their associated mirror sites. If a profile associated with a new host is found in the mirror profile list, ***there is no need to retrieve the profile from another base station or from the central server site***.

(Zhang, col. 31, ll. 14-25, emphasis added.) Regarding the pointer address value of field 168 of the global/mirrored profile subscriber list 160, Zhang explains the following:

> . . . the profile pointer field 168 stores a memory address pointing to an associated subscriber profile stored in the profile data base 132 (FIG. 3B) ***at the local base station***. For each cache entry 162 which is not included in the mirror list, the profile pointer field 168 is empty, or stores a null pointer value indicating that the associated subscriber profile is not stored locally.

(Zhang, col. 11, ll. 8-14, emphasis added.) In addition, a base station location field 166 stores the IP address of an associated owner base station which *currently* owns the profile of the associated subscriber. (Zhang, col. 10, ll. 50-55.) In other words, Zhang makes it clear that it is not desired to look out to other base stations to retrieve a profile, and has therefore created a system where each of the base stations has a global/mirrored profile subscriber list 160 stored locally. Moreover, the global/mirrored profile subscriber list 160 does not have any addresses or other information that defines structural or organizational relationships between base stations 114. Zhang provides this solution so that hand-off procedures can be performed faster, and also provides more seamless transitions of profiles from one part of a network to another. (Zhang, col. 10, ll. 24-33.)

Regarding the updating of the subscriber lists, Zhang explains that in step 1020, base station 114 updates the local profile subscriber list 150 by adding the profile associated with the new mobile host 120. (Zhang, col. 31, ll. 26-30, Figs. 3-4, and 10A, Step 1020.) Moreover, in Zhang, the new profile is also copied to associated mirror sites, where each

associated mirror base station receives a copy of message 830 that includes profile associated with new mobile host 120, and this profile is also added to the global profile subscriber list 160. (Zhang, col. 31, ll. 30-38, Fig. 10A, Step 1022.)

However, Zhang fails to teach all the features of Applicants' independent Claim 1. In particular, Zhang fails to teach:

> ***a location table to record an address of each of said plurality of wireless base stations that structure a network***, in association with an address of the terminal device currently existing under said each wireless base station

(Claim 1, portions omitted, emphasis added.) As discussed above, the profile pointer field 168 of the global/mirrored profile subscriber list 160 *is not* a record of an address of each of said plurality of wireless base stations, as required by Applicants' independent Claim 1. Moreover, the base station location field 166 only stores the IP address of an associated owner base station which *currently* owns the profile of the associated subscriber, and therefore, the Claim 1 feature "a location table to record an address of *each* of said plurality of wireless base stations *that structure a network*" is not anticipated, because Zhang's base stations 114 simply do not have such information.

The reference Nakabayashi is directed to a method of selecting a wireless bridge 10 from among a plurality of wireless bridges, each of these bridges having a communication quality at a predetermined level or higher. (Nakabayashi, Abstract, ¶¶ [0016]-[0017]). To select a wireless bridge, in Nakabayashi, a routing table 20, that is located inside the wireless bridge 10, can be used based on the reception level or a bridge priority value. (Nakabayashi, ¶¶ [0059], [0073], see also Figs. 1 and 5.)

A wireless bridge with the lowest bridge priority value in the network is the root bridge. (Nakabayashi, ¶ [0044], ¶ [0059]). Also, Nakabayashi's routing table 20 contains the port number 21, the bridge ID 22, and the destination addresses 23, and the destination address field 23 contains broadcasting/multicasting addresses. (Nakabayashi, ¶ [0051], Fig.

5). As shown in Nakabayashi's Figure 5, the routing table 20 can link a port number 21, a bridge ID 22 with a plurality of destination addresses 23 of input/output ports of the corresponding bridge. (Nakabayashi, ¶ [0050]). Moreover, a parameter table 30, located in the wireless bridge 10, has a plurality of sub-tables 30-i including information on each port number 21 that is stored in the routing table 20. (Nakabayashi, ¶¶ [0047], [0052]-[0054], Fig. 6.)

Nakabayashi does not remedy the deficiencies of Zhang related to the location table. In addition, Nakabayashi fails to teach "a route control table describing each of the other wireless base stations as a root bridge or a destination bridge of a transmission path in the network in association with a next hop to which the received packet is to be forwarded," as required by Applicants' Claim 1. The pending Office Action asserted that this feature is anticipated by Nakabayashi's bridge ID 22, port number 21, and destination addresses 23 of the routing table 20. (See Office Action, p. 8, l. 21, to p. 9, l. 11.) Applicants respectfully disagree, as next discussed.

By virtue of connection strengths and issues related to wireless LAN networks, Nakabayashi explains that the wireless bridge 10 checks for neighboring wireless bridges where "the signal reception level is higher than a predetermined threshold." (Nakabayashi, ¶ [0067], ll. 1-6). Then, wireless bridge 10 selects those wireless bridges as STP-applicable bridges, allocates the logical port numbers to them, and generates the parameter sub-tables 30-i of parameter table 30. (Nakabayashi, ¶ [0067], ll. 6-9.) According to the parameter table 30 of Nakabayashi's Figure 6, a root side bridge ID, recorded in Field 34, is recorded in association with the connected bridge ID, recorded in Field 35, for the same port ID 31. (Nakabayashi, ¶ [0059], Fig. 6.) The root side bridge is the bridge that is adjacent to the port, and the connected bridge is the bridge that is actually connected to the port or a neighboring wireless bridge corresponding to a logical port (Nakabayashi, ¶ [0059], ll. 5-10.) Moreover,

in the routing table 20 of Nakabayashi, each port number 21 is associated with a connected bridge ID and *a destination address 23 of terminals existing in the direction of the connected bridge*. (Nakabayashi, ¶ [0050], ll. 4-7.)

By combining the information of the routing table 20 and the parameter table 30 of Nakabayashi, the root side bridge adjacent to the port on the root side, the connected bridge actually connected to the port, and the terminal devices existing in the direction of the connected bridge are associated with each other. However, Nakabayashi fails to teach the information related to the "next hop" as required by Applicants' independent Claim 1. In particular, the combination of the information of routing table 20 and parameter table 30 fails to teach the following features:

> a route control table describing each of the other wireless base stations as a root bridge or a destination bridge of a transmission path in the network in association with a next hop to which the received packet is to be forwarded, the next hop being determined in accordance with a wireless base station to which a source terminal device or a destination terminal device currently belongs

(Claim 1, portions omitted.) As discussed above, there is no determination of a "next hop" that is "in accordance with a wireless base station to which a source terminal device or a destination terminal device currently belongs," because in Nakabayashi, the destination address 23 is describing terminals existing in the direction of the connected bridge. (Nakabayashi, ¶ [0050]).

Therefore, even if the combination of Zhang and Nakabayashi is assumed to be proper, the cited passages of the combination fails to teach every element of Applicants' Claim 1. Accordingly, Applicants respectfully traverse the rejection, and request reconsideration of this rejection.

Furthermore, Applicants believe that the combination of Zhang with Nakabayashi is not an obvious one. For example, Zhang explains that a cache entry announcement message

700, 790 is broadcast via the backbone 112 of network 110, so that a location of a mobile host 120 can be updated in a base station 114. (Zhang, col. 30, ll. 55-57. see e.g. col. 22, ll. 24-42.) However, the reference Nakabayashi is directed to a system where wireless bridges are connected with a spanning tree protocol (STP) to forward multicast packets. (Nakabayashi, Abstract.) The main goal in the use of the STP protocol is to prevent bridge loops. This type of network is incompatible with the distribution of location announcement messages 700, 790 that are sent over a backbone network 112, because Nakabayashi's invention is directed to a wireless bridging scheme for connecting segments of networks. (Nakabayashi, ¶¶ [0001], [0017]). Therefore, Nakabayashi's use of a route control table having information on wireless bridges is not readily combinable into Zhang's cellular network with base stations 114 that are connected via a backbone network 112. (Zhang, Fig. 3A, from col. 6, l. 60, to col. 7, l. 9.) The pending Office Action has merely provided a conclusionary statement without any reason as to why this combination is obvious. (Office Action, p. 16-20, concluding that the combination is obvious to increase "message forward efficiency.") Therefore, the pending Office Action has provided no evidence that a person of ordinary skill in the art would be motivated to perform such substantial changes and redesign, nor did the Office Action provide any reasoning for obviousness. *See In re Ratti*, 270 F.2d 810, 813, 123 USPQ 349, 352 (reversing an obviousness rejection where the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.") Please note that the decision of *In re Ratti* was not reversed by the decision *KSR v. Teleflex*, 550 U.S. 398 (2007).

Moreover, independent Claims 6, 29 and 32 recite features that are analogous to the features of independent Claim 1 as argued above, but is different in scope. For example, independent Claim 29 recites a "packet creating unit." The pending Office Action rejected

this feature based on paragraphs [0096] and [0053] and Figure 2 of Nakabayashi. (Office Action, p. 15, ll. 2-11). Applicants respectfully submit that the packet creating unit of Applicants' Claim 29 requires a configuration such that in a case "one of the wireless base stations is a wireless base station that first received a packet from a terminal device," address information of a wireless base station is added. (Claim 29, portions omitted.) This feature is not taught by Nakabayashi. Nakabayashi explains that if the port number i specified by a transmission event matches one of wireless interface port numbers, a MAC frame is created in which the MAC address indicated by the connected bridge ID 35 in the sub-table 30-i corresponding to the port number i is stored in the RA address field 113. (Nakabayashi, ¶ [0096]). However, in Nakabayashi, there is no requirement that the wireless base station has received the packet *first*. Therefore, in addition to the arguments presented above towards patentability of Claim 1, Applicants respectfully request reconsideration of the rejection of independent Claims 6, 29 and 32 based on Zhang and Nakabayashi.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1, 5-6, 8-10, and 29-34 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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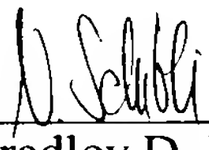

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